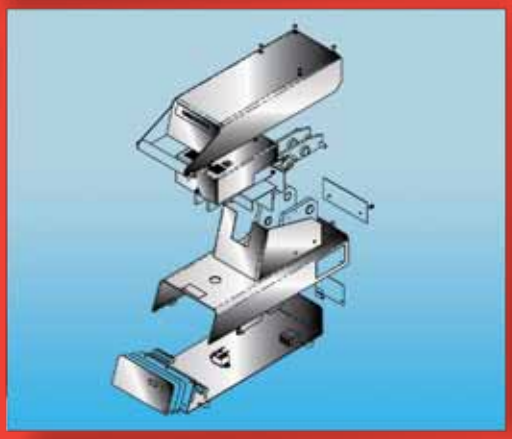
Thermopatch
Since 1934

HS-4-C User Manual



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Dec 2011
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Preface

Dear user,

Congratulations and welcome to the ever growing number of Thermopatch users.

You have acquired a machine which has been manufactured by Thermopatch with the greatest possible care. We are confident that you will be enjoying the use of this machine for a long time.

Please take note of the contents of this manual to familiarize yourself with the workings and safety aspects of the machine. This manual was written for the benefit of all users and technicians who install and maintain the machine. You will find information on operating, safety and maintenance as well as spare parts and supplies.

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EC-Declaration of Conformity

We,
Thermopatch B.V.
Draaibrugweg 14
1332 Almere
The Netherlands
herewith declare, on our own responsibility, that the applyance:
Thermopatch Thermoseal **HS-4-C,**
which this declaration refers to, is in accordance with the conditions of the following Directive(s):
2006/95/EG (Low voltage directive)
2004/108/EG (EMC directive)

The Netherlands, Almere, 30-09-2009

Jan Bausch,
Director

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I. Introduction

1.1 WHAT DID YOU RECEIVE?

The HS-4-C has been packed in a cardboard box. The following articles should have been delivered:

- HS-4-C heat seal machine
- Electrical power cable
- User's Guide on CD-ROM

If one of these articles is missing, please contact our customer service or your Thermopatch supplier.

1.2 THE HS-4-C

1.3 YOUR SUPPLIER

Please look at our website, www.thermopatch.com to find your supplier. E-mail: sales@thermopatch.nl

1.4 SPECIFICATIONS OF THE HS-4-C

The machine HS-4-C is practical anduniversally applicable. It can be used to apply patches, textile emblems, heat seal transfers, in short all Thermopatch materials suited for marking and mending to textiles and technical fibres.

The HS-4-C machine is a semi-automatic machine wich is manually operated. The set temperature, time and pressure are presented upon its display.

The Thermoseal HS-4-C has been manufactured in accordance with the European guideline for Low Voltage 2006/95/EG and the EMC guideline 2004/108/EC.

You will find this declaration inside this manual on the supplied CD.

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1.5 SAFETY

At normal usage no problems are to be expected. Regardless that, we state underneath a few pointers which will limit existing risks to a minimum.

- Unplug the machine from the wall socket whenever you are maintaining or cleaning the machine.
- Make sure there is enough working space around the machine. Although the heat radiation of the press is very low, it is still necessary to have enough room for cooling down. Extensions and connections must not get snagged.
- Avoid contact with the press arm and the heating element.
- Pull the fabric tightly over the sealing pad.

1.6 CONDITIONS OF WARRANTY AND PRODUCT LIABILITY

Thermopatch points to its warranty and product liability conditions as laid down in our sales conditions. These can be obtained at your Thermopatch supplier.

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II. Installation

2.1 INSTRUCTION FOR HANDLING

The HS-4-C has been packed in a cardboard box. If you need the relocate the machine at a later point, we advise you to pack the machine in a similar fashion. Let the machine cool down completely before packing and moving it.

2.2 INSTALLING AND CONNECTING THE HS-4-C

Take the Thermoseal HS-4-C from its box and place it onto a stable worktop near an earthed wall socket. Connect the machine with the supplied power cord to the electrical current (230 Volt, alternating current). Thermoseal HS-4-C is earthed and provided with a two fuses (3.15 A).

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III. Operating the HS-4-C

3.1 STARTING UP

You can start operating the Thermoseal HS-4-C as soon as it is connected to the electricity mains. Switch on the HS-4-C by pressing the on/off (I-0) switch, which is placed on the back of the machine, to "on (I)". Wait until the set temperature has been reached, which will take about one minute.

The Thermoseal HS-4-C has been supplied with:

TEMPERATURE	204°C
TIME	12 seconds
POWER SAVER TIMER	30 minutes
POWER SAVER TEMPERATURE	149°C

3.2 FUNCTIONALITY

Switch the machine to the "On" position. Either the Celsius or Fahrenheit LED will blink depending upon the machine settings. The actual temperature of the Heater Element is displayed. During the heat up phase, and when the machine has achieved "Set Temperature", changes to the machine settings for: Set Temperature, Temperature Display in Celsius or Fahrenheit, Sealing Cycle Time, Power Saver Time and Power Saver Temperature can be made. Changes cannot be made to the machine settings when the machine is active during a Sealing Cycle.

LCD Display Functions:

The following describes the LCD Display functions and displays: The Celsius or Fahrenheit LED will light up continuously once the temperature is within range of the setting. Range is +/- 7°C or +/-15°F. When not in a sealing cycle, the actual temperature of the Heater Element is displayed. During the Sealing Cycle, the LCD will display a countdown of the time in seconds from the preset Sealing Cycle Time.

Procedure to change desired Set Temperature:

The SET TEMPERATURE of the HS-4-C heat seal machine has been set at the factory to 204°C. To change the SET TEMPERATURE, please follow the procedures below:

1. Press select/save button once.
2. Press + or - button to set the desired Set Temperature.
3. Press select/save to save the setting.

Note: If the + or - button is not touched for 3 seconds the display will change to the actual temperature of the Heater Element and no changes will be saved.

Procedure to change desired Sealing Cycle Time:

The SEALING CYCLE TIME of the HS-4-C heat seal machine has been set at the factory to 12 seconds. To change the SEALING CYCLE TIME, please follow the procedures below:

1. Press the select/save button twice.
2. Press + or - button to set the desired time.
3. Press select/save to save the setting.

Sealing Pressure:

A label to indicate the direction in which to turn the Lower Press Platen is mounted directly below the Lower Press Platen. To increase inter-platen pressure, turn the Lower Press Platen counterclockwise. To decrease the inter-platen pressure, turn the Lower Press Platen clockwise. The Pressure Settings in the Heat Sealing Guide on page 2-3 are obtained as follows:

1. Turn the Lower Press Platen clockwise until it has bottomed out against the machine base.
2. Turn the Lower Press Platen counterclockwise until the first "click" is detected. This Pressure Setting is zero pressure.
3. To set the Lower Press Platen to a selected Pressure Setting, count the number of "clicks" turning the Lower Press Platen counterclockwise, increasing pressure.
4. To set the Lower Press Platen to a new selected Pressure Setting from and existing setting, count the number of "clicks" from the existing setting, turning the Lower Press Platen clockwise or counterclockwise.
   Settings may vary depending upon garment thickness. Normally, higher pressures will produce more effective heat seals. However, the use of excess pressure may force adhesive through the fabric, with an undesired result.

CAUTION! USE OF EXCESS PRESSURE CAN CAUSE THE HS-3-C, HS3CES AND HS-4-C MACHINES TO BECOME LOCKED IN A CLOSED POSITION AND DIFFICULT TO OPEN. EXTREME PRESSURE MAY SEVERLY DAMAGE THE MACHINE.

Difficulty in locking the Seal Arm Handle of the HS-3-C, HS3CES or HS-4-C machines in a closed position is an indication of **too much inter-platen pressure.** To prevent excess pressure when sealing thick garments, screw the Lower Press Platen all the way down. A Lower Press Platen that is worn from use can cause insufficient inter-platen pressure. The Lower Press Platen should be replaced with Lower Press Platen SPA43941. When the pressure is too high, preventing the machine to open by itself, this has to be done manually. After this, switch off the machine for 5 seconds and switch it on again, resetting the machine.

IV. Maintenance

4.1 GENERAL

Ensure that the cycle of the machine is finished, before working on the machine. Depending on the planned job you wish to perform, respectively the power – and air supply can be disconnected.

Temperature:

The temperature of the heating plate can be tested regularly by using Thermolabels or a Minitemp infrared thermometer. Both can be obtained at your Thermopatch supplier.

Teflon cover:

The Teflon cover of the heating plate should always be clean to prevent labels or patches sticking to it or soiling the heat seal products. Clean the cover with a dry, clean cloth when the machine is still warm. Repeat this several times a day when using the machine intensively. Damaged or soiled Teflon covers need to be replaced. These can be obtained at your Thermopatch supplier.

Sealing pad:

Clean the sealing pad while it is still warm. Use a clean, lint free cloth to clean it regularly. Do not heat seal on zippers, staples, buttons etc. to avoid damage by puncturing or tearing the sealing pad. Never use solvents to clean the sealing pad.

Replacing the Teflon cover or sealing pad:

The Teflon cover or the sealing pad should, depending on their condition, be replaced regularly. When performing the replacement, make sure the machine has cooled down sufficiently. Peel off the self-adhesive Teflon cover (like a used band-aid). Then carefully remove any glue residue that was left behind. Make sure that all residue is removed and the metal surface is clean, before placing the new cover, without bubbles. Teflon covers and sealing pads can be obtained at your Thermopatch supplier.

Lubrication:

Normally the machine does not require lubrication. However when the Sealing Arm Handle is slow to rise, lubricating the pivots and rotating parts will help the Sealing Arm Handle.

V. Possible faults

5.1 PROBLEM ANALYSIS AND SOLUTIONS

Fault	Possible cause	Solution
No heat.	• Machine is unplugged or power source is faulty. • Main power switch is not "On". • Power Saver feature activated. • Temperature displayed. • Loose wires. • Heat sensor is defective. • Sealing iron is defective. • Relay is defective. • Heat controller is defective.	• Check plug and fuses. • Check • See I. Introduction. • See II. Installation. • Check • Replace • Replace • Replace • Return circuit board to factory for repair.
Temperature too high or too low.	• Heat control requires adjustment. • Temperature display is incorrect. • Power Saver feature activated. • Heat sensor is defective. • Sealing iron defective. • Heat controller is defective.	• See II. Installation to adjust. • See II. Installation to check. • See I. Introduction.. • Replace • Replace • Return circuit board to factory for repairs.
Time malfunction.	• Loose wires. • Timer is defective. • Micro switch is defective.	• Check • Return circuit board to factory for repairs. • Replace
Handle does not stay down. Handle does not return at end of cycle (HS-4-C).	• Insufficient pressure. • Excess pressure. • Motor is defective. • Linkage or gas spring is binding or broken. • Springs are weak. • Links broken.	• See III. Operating the HS-4-C. • See III. Operating the HS-4-C. • Replace • Lubricate or adjust. See Page V. Possible faults and VI. Supplies Note 1. • Replace • Replace
Inadequate bond or transfer.	• Insufficient sealing time. • Insufficient pressure. • Insufficient temperature. • Pad worn. • Teflon shield soiled or worn.	• Increase time in 2 second increments and test. • Increase pressure in one half turn increments and test. • See II. Installation to adjust. • Replace • Clean or replace.
Bleed through.	• Too much time. • Too much pressure.	• Decrease time in 2 second increments. • Decrease pressure in one half turn increments.

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5.2 ERROR CODES

Error 1 = Temperature sensor short (0 Ohm)

Error 2 = Temperature sensor broken

Error 3 = Error in E-prom

The processor has no access to the memory for saving or reading of information.

Error 4 (HS-4-C only) = Motor timed out, not in position or motor switch error

The correct position of the Cam Arm Motor cannot be detected. Rotate the Cam Arm Motor Shaft checking actuation of the Motor Detection Switch. Also, check wire connections on the Motor Detection Switch.

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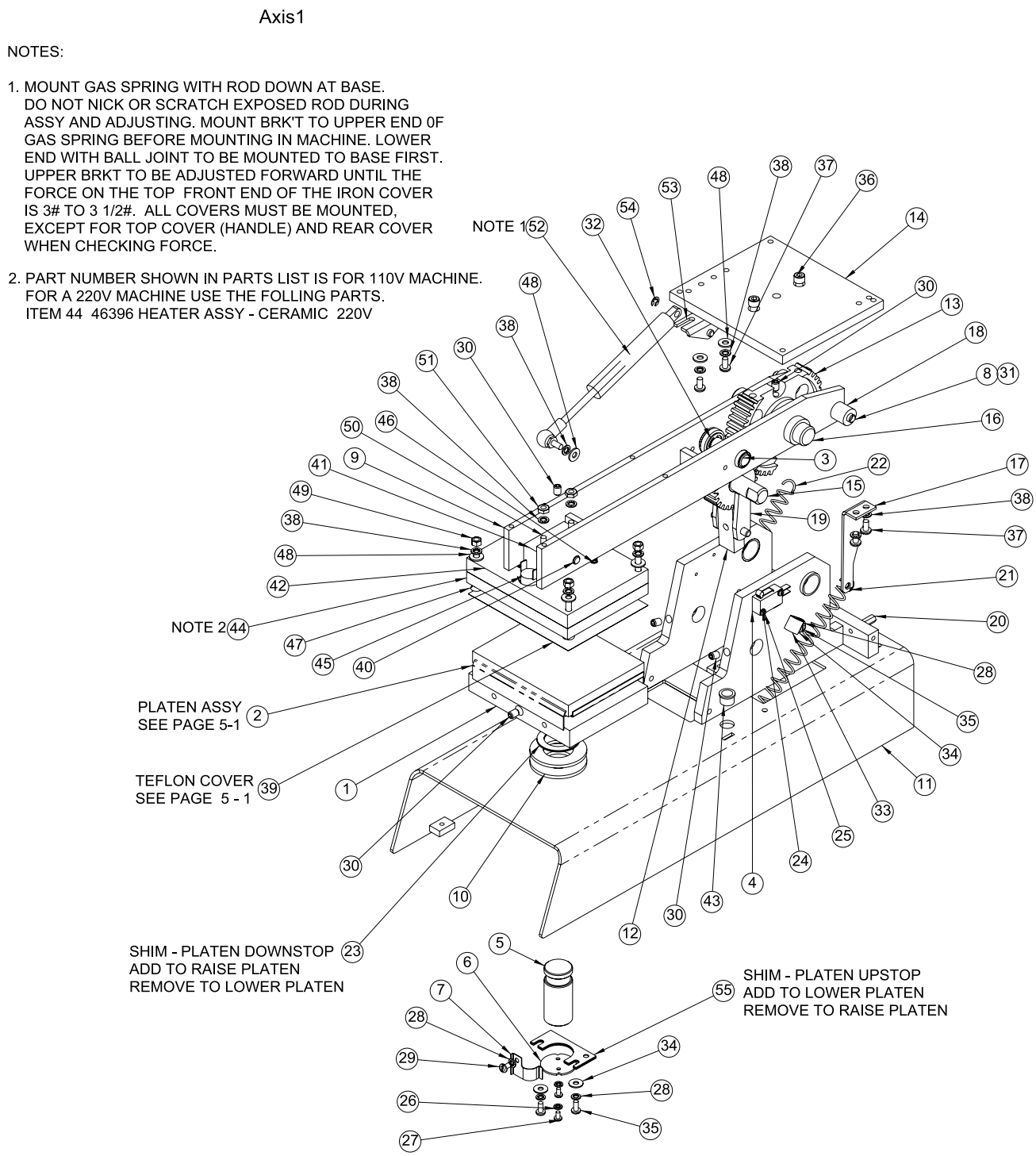
VI. Supplies

6.1 MOST COMMONLY USED PARTS

- Sealing pad SPA43063
- Teflon cover, self-adhesive, SPA9000
- Fuse: 2x 20015-26 3.15 A Fuse


Axis1
NOTES:
1. MOUNT GAS SPRING WITH ROD DOWN AT BASE. DO NOT NICK OR SCRATCH EXPOSED ROD DURING ASSY AND ADJUSTING. MOUNT BRK'T TO UPPER END 0F GAS SPRING BEFORE MOUNTING IN MACHINE. LOWER END WITH BALL JOINT TO BE MOUNTED TO BASE FIRST. UPPER BRKT TO BE ADJUSTED FORWARD UNTIL THE FORCE ON THE TOP FRONT END OF THE IRON COVER IS 3# TO 3 1/2#. ALL COVERS MUST BE MOUNTED, EXCEPT FOR TOP COVER (HANDLE) AND REAR COVER WHEN CHECKING FORCE.
2. PART NUMBER SHOWN IN PARTS LIST IS FOR 110V MACHINE. FOR A 220V MACHINE USE THE FOLLING PARTS. ITEM 44 46396 HEATER ASSY - CERAMIC 220V
NOTE 1
NOTE 2
PLATEN ASSY SEE PAGE 5-1
TEFLON COVER SEE PAGE 5 - 1
SHIM - PLATEN DOWNSTOP ADD TO RAISE PLATEN REMOVE TO LOWER PLATEN
SHIM - PLATEN UPSTOP ADD TO LOWER PLATEN REMOVE TO RAISE PLATEN

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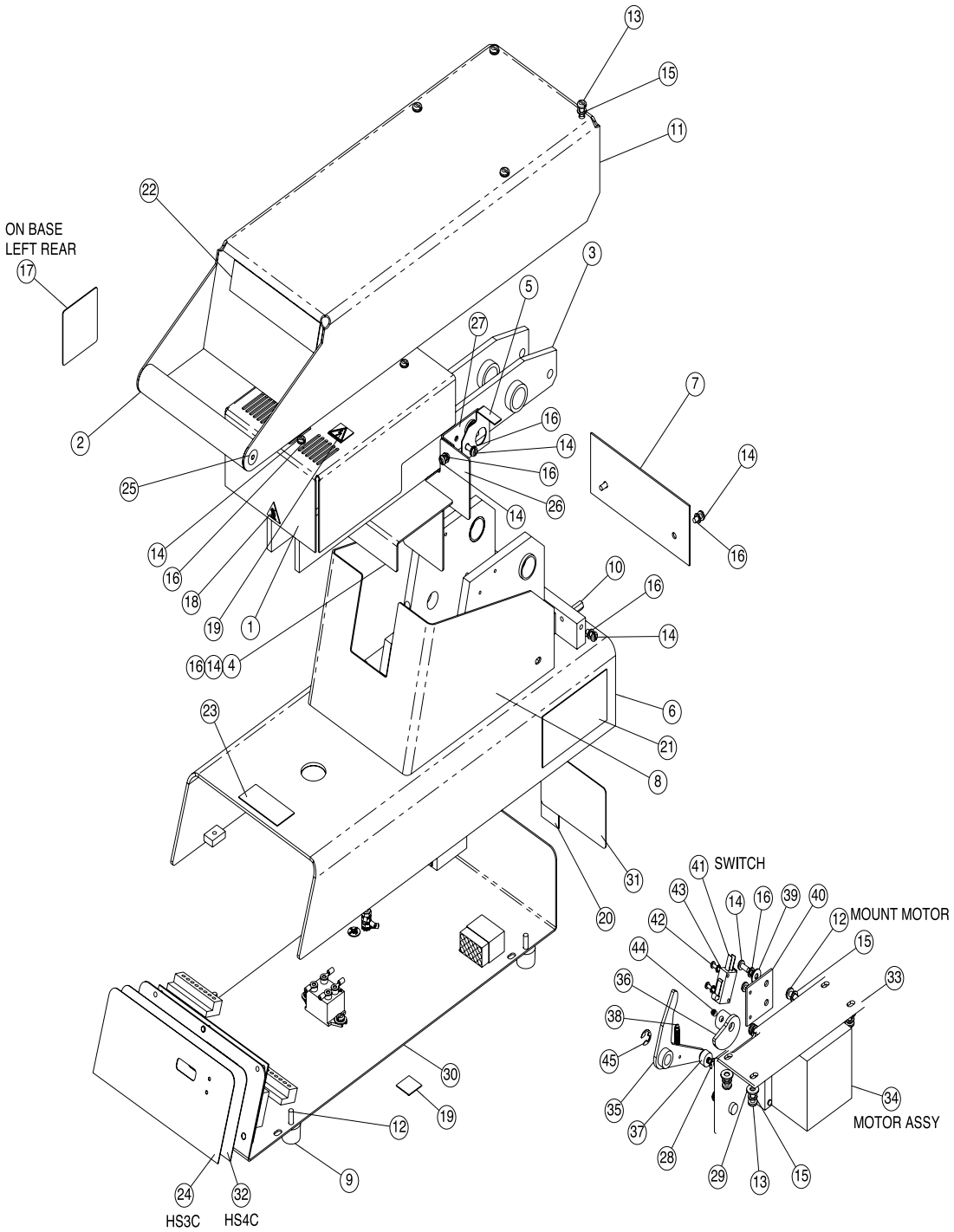
Item Number	Qty.	Part No.	Description
1	1	SPA43663	BASE – PLATEN
2	1	SPA43941	PLATEN ASSY
3	1	SPA46328	SHAFT – LINK PIVOT
4	1	SPA20055-62	SWITCH – MICRO
5	1	SPA46320	THREADED ROD – PLATEN ADJ.
6	1	SPA43644	STOP WASHER
7	1	SPA43656	SPRING - INDEX
8	1	SPA46333	SHAFT - SPRING
9	1	SPA46314	ARM ASSY - SEALING
10	2	SPA21023-11	WASHER - FLAT 1.0 ID X 1/8 TK
11	1	SPA46301	BASE ASSY - WELDMENT
12	1	SPA46322	GEAR ASSY - 24T
13	1	SPA46325	GEAR - 48 T MACHINED
14	1	SPA46312	PLATE - COVER
15	1	SPA46329	SHAFT - 24T GEAR PIVOT
16	1	SPA46330	SHAFT - 48T GEAR PIVOT
17	1	SPA46335	ANCHOR - SPRING
18	2	SPA24091-44	BUSHING - RUBBER
19	2	SPA46307	LINK - CLAMP
20	2	SPA21028-47	STANDOFF - 1/4 HEX - 8-32 M/F
21	1	SPA24080-32	SPRING - EXT LE067E09 COVER
22	1	SPA24080-35	SPRING - EXT LEO67E10 ARM
23	2	SPA43895	WASHER - FLAT 1.0 ID X 1/32 TK

Item Number	Qty.	Part No.	Description
24	2	SPA21021-03-A	L'W - INT NO 4
25	2	SPA21058-07-C	PHS 4-40 X 1/2 LG
26	2	SPA21021-05-A	L'W - INT NO.6
27	2	SPA21058-03-E	PHS 6 - 32 X 1/4 LG
28	4	SPA21021-06-A	L'W - INT NO. 8
29	1	SPA21058-03-F	PHS 8 - 32 X 1/4 LG
30	5	SPA21011-07-L	SET SCW - CUP 1/4-20 X 3/8 LG
31	2	SPAD-9704	E - RING X5133-31
32	2	SPA21025-26	E-RING 1000-50 OR 5133-50
33	1	SPAD-1454	CLAMP - 3/8 CABLE
34	3	SPA21023-23	WASHER - FLAT NO.8
35	3	SPA21058-05-F	PHS 8-32 X 3/8 LG
36	2	SPA21063-05-K	SHCS 1/4 - 20 X 5/8 LG
37	4	SPA21058-05-H	PHS 10-32 X 3/8 LG
38	11	SPA21021-07-A	L'W - INT NO. 10
39	1	SPA46375	TEFLON COVER
40	1	SPA46379	PIN - BLOCK
41	1	SPA46378	BLOCK - HTR MTG
42	1	SPA46377	PLATE - HEATER INSULATING
43	1	SPAST-1062	GROMMET - PLASTIC
44	1	SPA46395	HEATER ASSY - CERAMIC 110V
45	1	SPA20018-24	THERMOSTAT - HI LIMIT
46	2	SPA24075-36	SPRING - COMPRESSION

Item Number	Qty.	Part No.	Description
47	4	SPA21044-12-C	FHS M5X40MM LG SHOT
48	7	SPA21023-01	F'W - #10
49	4	SPA21045-07-A	NUT - M5
50	2	SPA21056-15-H	FHS 10-32 X 1 3/4 LG SLOT
51	2	SPA21051-09-A	NUT - #10-32
52	1	SPA24091-48	GAS SPRING
53	1	SPA46374	BRKT ASSY - GAS SPRING
54	1	SPAD-9706	E-RING X5133-21
55	3	SPA46382	SHIM - PLATEN UPSTOP

6.2 MACHINE COVERS AND MOTOR IDENTIFICATION



NOTES:

1. PART NUMBER SHOWN IN PARTS LIST IS FOR 110V MACHINE.
   FOR A 220V MACHINE, USE THE FOLLOWING PARTS.
   ITEM 34 - 46398 MOTOR ASSY - 220V
   ITEM 20 - 46413 3.15 AMP FUSE LABEL
   ITEM 21 - 42550 - SOLD AND SERVICED - NOT REQ'D

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Item Number	Qty.	Part No.	Description
1	1	SPA46309	COVER- IRON
2	1	SPA46331	GRIP- HAND
3	1	SPA46314	ARM ASSY- SEALING
4	1	SPA46308	COVER - ARM
5	1	SPA46334	AcTuATOR - sw1Tc1-1
6	1	SPA46301	BASE ASSY- wELB-N1ENT
7	1	SPA46339	PLATE - REAR
8	1	SPA46337	COVER ASSY - REAR
9	4	SPA24090-79	RUBBER FOOT
10	2	SPA21028-47	STANDOFF - 1/4 HEX - 8-32 M/F
11	1	SPA46300	COVER - TOP
12	8	SPA21058-09-H	PHS 10-32 X 3/4 LG
13	8	SPA21058-05-H	PHS 10-32 X 3/8 LG
14	18	SPA21058-05-F	PHS 8-32 X 3/8 LG
15	12	SPA21021-07-A	L'W - INT NO. 10
16	18	SPA21021-06-A	L'W - INT NO. 8
17	1	SPA44771	LABEL - MADE IN USA
18	1	SPA45425	LABEL - HOT SURFACE
19	2	SPA45426	LABEL - HIGH VOLT-AGE
NOTE 1 20	1	SPA46412	LABEL- FUSE WARN-ING, 6 AMP
NOTE 1 21	1	SPA42550	LABEL- SOLD AND SERVICED
22	1	SPA46340	LABEL - TP T1-1ERN-10RATc1-1
23	1	SPA46376	LABEL- RLATEN PRES-SURE

Item Number	Qty.	Part No.	Description
HS3C 24	1	SPA46341	LABEL - CONTROL PANEL HS3C
25	2	SPA21062-04-G	FHSS 1/4 - 20 x s/8 LG
26	1	SPA46363	COVER - CLOSEOUT
27	2	SPA46364	BRK'T - CLOSEOUT COVER
HS-4-C ONLY 28	1	SPAD-9708	E - RING 5133-18
HS-4-C ONLY 29	1	SPA21023-01	F'W - #10
30	1	SPACOVER ASSY - BOT'M	SEEPAGE 6 - 3
31	1	SPA46347	LABEL- SERIAL NO. / SPECS
32	1	SPA46349	LABEL - CONTROL PANEL HS-4-C
33	1	SPA46399	BRKT ASSY- MOTOR
NOTE 1 34	1	SPA46397	MOTOR ASSY -11OV
35	1	SPA46402	ARM ASSY- CAM
36	1	SPA46408	CAM ASSY- RELEASE
37	1	SPA46407	ROLLER - CAM
HS-4-C ONLY 38	1	SPA24080-29	SPRING - EXT LE0E26B00
39	2	SPA21023-23	WASHER - FLAT NO. 8
40	1	SPA46406	PLATE- SWITCH
41	1	SPA20055-62	SWITCH - MICRO
42	2	SPA21058-07-C	PHS 4-40 X 1/2 LG
43	2	SPA21021-03-A	L'W - INT NO 4
44	1	SPA21011-04-K	SET SCREW 10-32 X 3/16 LG
45	1	SPAD-9705	E - RING 5133-37

Parts list with instruction sheet installing new arm	
SPA-21025-26	E-ring
SPA-24080-32 (HS-4 only)	Arm spring
SPA-24080-33 (HS-3 only)	Arm spring
SPA-24080-34 (HS-3 only)	Cover spring
SPA-24080-35 (HS-4 only)	Cover spring
SPA-46307	Link clamp
SPA-46314 (HS4/HS3CES only)	Sealing arm
SPA-46314 B (HS3 only)	Sealing arm
SPA-46322 (old)*	Small gear 24T
SPA-46325	Gear 48T
SPA-46328	Link shaft
SPA-46329	Small gear shaft
SPA-46330	Large gear shaft
SPA-46334	Switch actuator
SPA-46364	Close out cover bracket
SPA-46493 (new)*	Small gear 24T

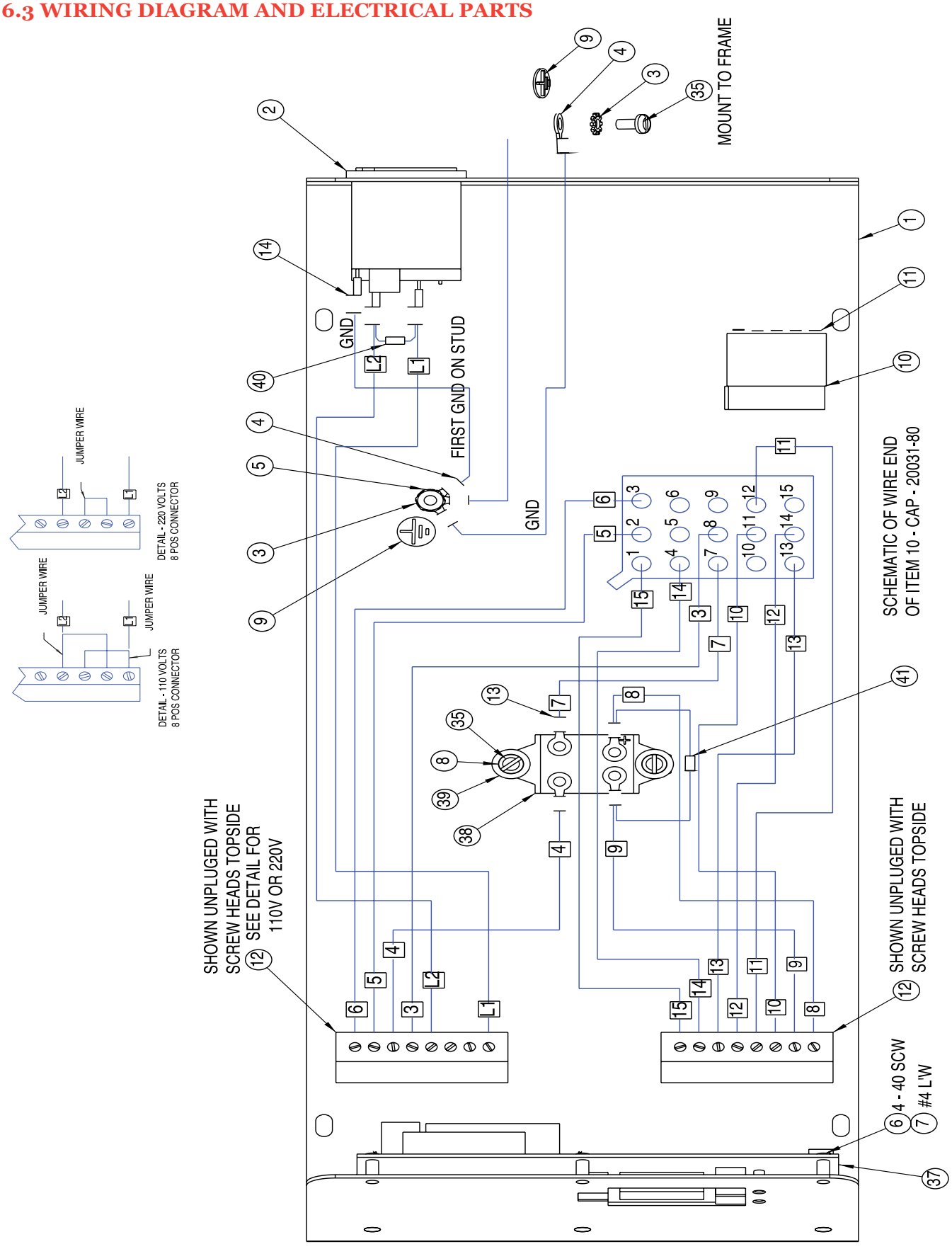
* 24T Gear HS3/HS-4-C

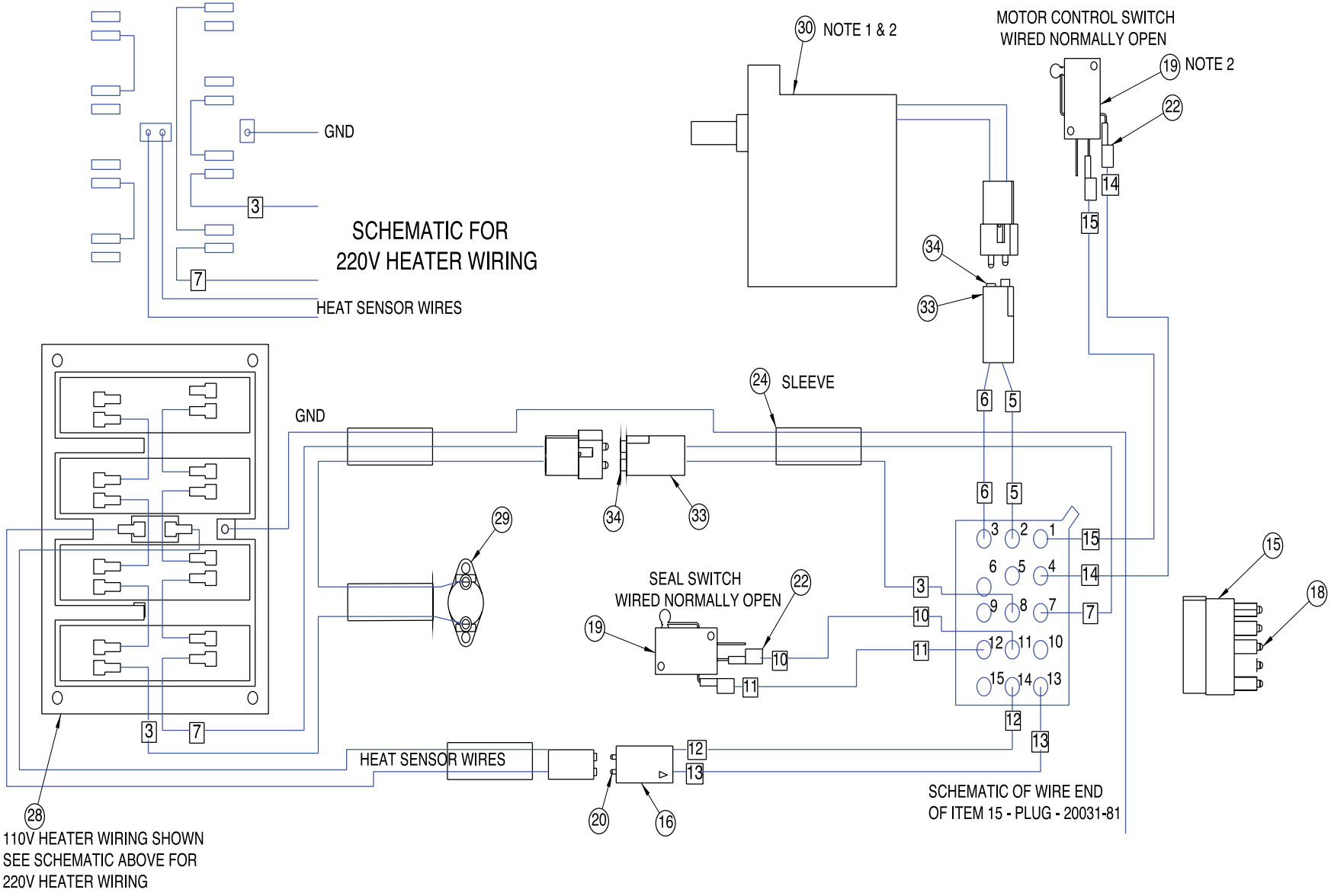
SPA46493 is the improved version of SPA46322 (=old).

The pin is now supplied with 2 E-retainers and retainer slots to prevent the link clamps (46307) from moving out of their position.

Retainers added: SPA D-9702 qty: 2

6.3 WIRING DIAGRAM AND ELECTRICAL PARTS




GND
3
7
HEAT SENSOR WIRES
SCHEMATIC FOR
220V HEATER WIRING
30 NOTE 1 & 2
MOTOR CONTROL SWITCH
WIRED NORMALLY OPEN
19 NOTE 2
22
14
15
34
33
24 SLEEVE
6
5
GND
29
SEAL SWITCH
WIRED NORMALLY OPEN
22
19
10
11
3
10
11
12
13
HEAT SENSOR WIRES
20
16
28
110V HEATER WIRING SHOWN
SEE SCHEMATIC ABOVE FOR
220V HEATER WIRING
SCHEMATIC OF WIRE END
OF ITEM 15 - PLUG - 20031-81
18

Item Number	Qty.	Part No.	Description
1	1	SPA46326	COVER ASSY- BOTTOM
2	1	SPA20056-18	POWER ENTRY MODULE W/FILTER
3	5	SPA21021-06-B	L'W -EXT NO. 8
4	4	SPA20003-19	RING TERM. -NO. 10 HI-TEMP
5	3	SPA21051-07-A	HEX NUT - NO. 8 -32
6	3	SPA21058-03-A	PHS NO. 4-40 X .25 LG
7	3	SPA21021-03-A	L'W - INT NO 4
8	2	SPA21021-06-A	L'W - INT NO.8
9	2	SPA45413	LABEL - GROUND SYMBOL
10	1	SPA20031-80	CAP - HOUSING 15 POS
11	10	SPA20031-83	SOCKET
12	2	SPACONN-8 POS	
13	4	SPAD-3127	RING TERM NO 6
14	3	SPA20003-16	CONN - 1/4 FEMALE FULL. INS
15	1	SPA20031-81	PLUS - HOUSING 15 POS
16	1	SPA20031-91	CONN - 2 PIN MALE
17	1	SPA20031-92	CONN - 2 PIN FEMALE
18	10	SPA20031-82	PIN
19	2	SPA20055-62	SWITCH - MICRO
20	2	SPA20030-102	PIN
21	2	SPA20030-104	SOCKET
22	4	SPA20003-35	CONN - 3/16 FEMALE FULL INS

Item Number	Qty.	Part No.	Description
23	2	SPA20003-20	CONN - 3/16 FEMALE HI-TEMP
24	3	SPADH-6634S	SLEEVE - 7/32 I.D.
25	1	SPA20080-05	SLEEVE - 1/16 I.D.
NOTE 1 26	2	SPA20015-20	FUSE - 6 AMP
NOTE 1 27	1	SPA20080-70	CORD - LINE 110V IEC CONN
NOTE 1 28	1	SPA46395	HEATER ASSY - CERAMIC 110V
29	1	SPA20018-24	THERMOSTAT - HI LIMIT
NOTE 1 & 2 30	1	SPA46397	MOTOR ASSY 110V
31	2	SPA20030-12	PLUG - 2 POS FEMALE
32	4	SPA20030-03	PIN
33	2	SPA20030-11	RECEPTACLE - MALE
34	4	SPA20030-04	SOCKET
35	3	SPA21058-04-F	PHS 8-32 X .31 LG
NOT SHOW 36	1	SPA40382	LABEL - LINE CORD
NOTE 3 37	1	SPA46411	CIRCUIT BOARD ASSY
38	1	SPA20040-54	RELAY - SOLID STATE
39	2	SPA21023-23	WASHER - FLAT NO. 8
NOTE 2 40	1	SPA20000-77	CAPACITOR - X2 .47 uF
NOTE 2 41	1	SPA20000-78	CAPACITOR - 22

Parts list with instruction sheet installing new arm	
SPA-21025-26	E-ring
SPA-24080-32 (HS-4 only)	Arm spring
SPA-24080-33 (HS-3 only)	Arm spring
SPA-24080-34 (HS-3 only)	Cover spring
SPA-24080-35 (HS-4 only)	Cover spring
SPA-46307	Link clamp
SPA-46314 (HS4/HS3CES only)	Sealing arm
SPA-46314 B (HS3 only)	Sealing arm
SPA-46322 (old)*	Small gear 24T
SPA-46325	Gear 48T
SPA-46328	Link shaft
SPA-46329	Small gear shaft
SPA-46330	Large gear shaft
SPA-46334	Switch actuator
SPA-46364	Close out cover bracket
SPA-46493 (new)*	Small gear 24T

* 24T Gear HS3/HS-4-C

SPA46493 is the improved version of SPA46322 (=old). The pin is now supplied with 2 E-retainers and retainer slots to prevent the link clamps (46307) from moving out of their position.

Retainers added: SPA D-9702 qty: 2

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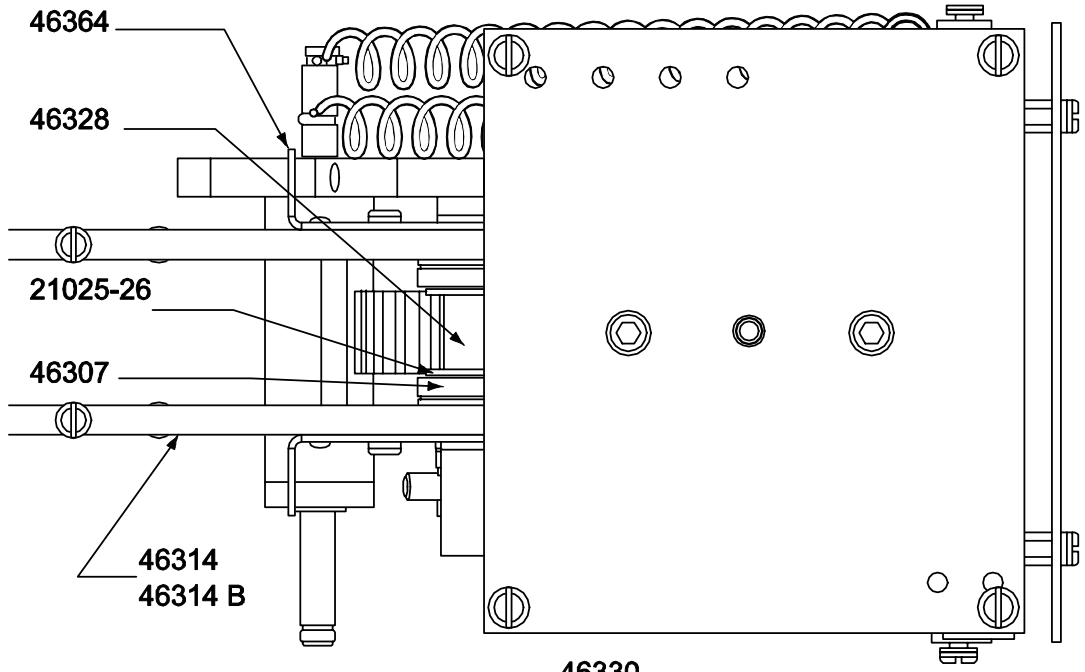

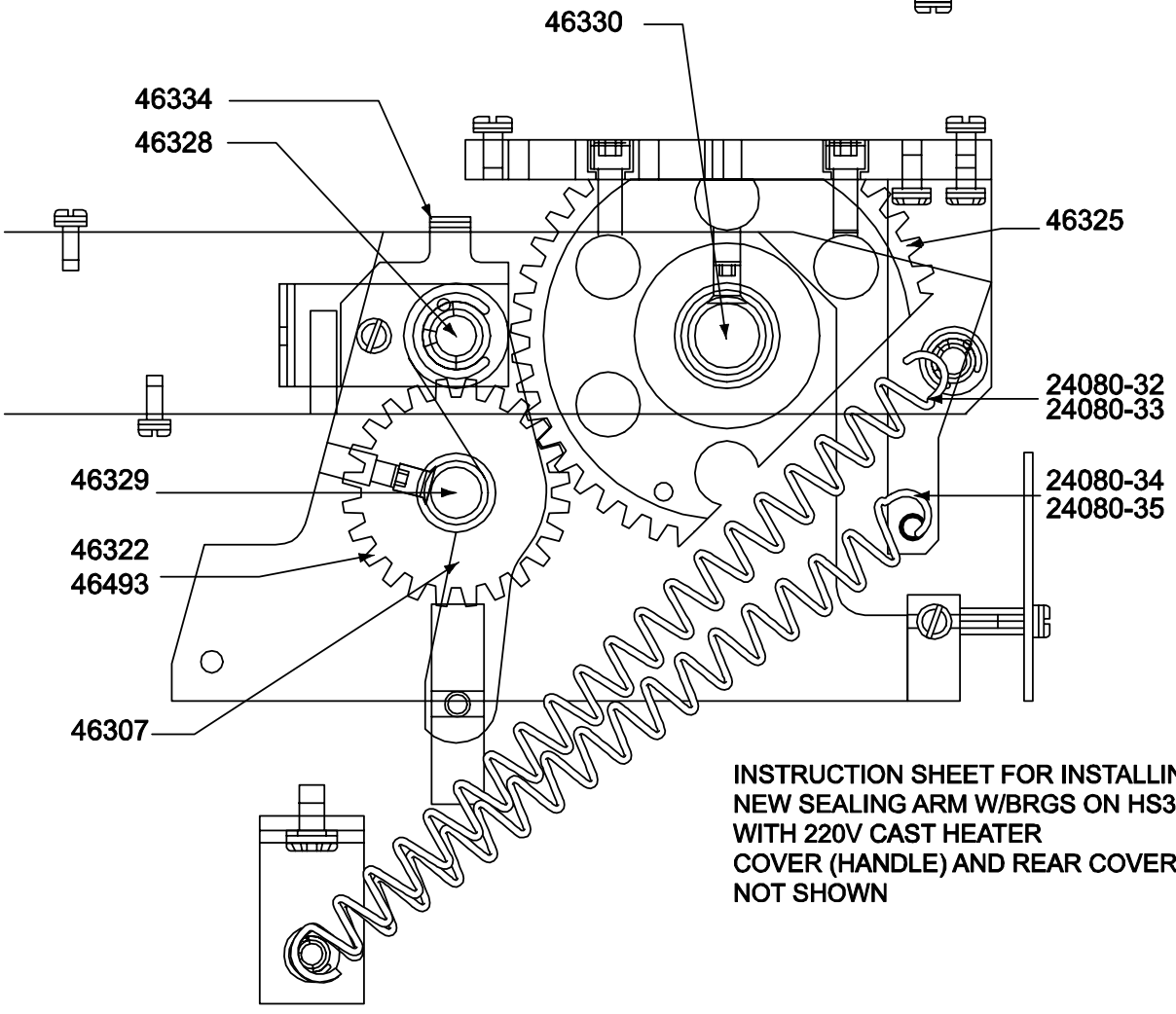

INSTRUCTION SHEET FOR INSTALLING
NEW SEALING ARM W/BRGS ON HS3C
WITH 220V CAST HEATER
COVER (HANDLE) AND REAR COVER
NOT SHOWN

Notes:

1. The part numbers shown in the parts list is for a 110 volt machine. All 220V machines use the following item/part numbers:

   ITEM 25 – SPA20015-26 3.15 AMP Fuse
   ITEM 26 – SPA41969 Line Cord 220V
   ITEM 27 – SPA46396 Heater Assembly 220V
   ITEM 29 – SPA46398 Motor Assembly 220V

2. The following parts are **not used** on the HS3C machine:

   • The Motor Assembly.
   • The Motor Control Switch.
   • Connection pins and wire numbers 5, 6, 14 & 15.

3. ITEM 36 – Circuit Board Assembly – on HS3C and HS3CES, use #46435 if part #46411 is not available.

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VII. Customer Service

Europe :
Thermopatch BV
P.O. Box 50052
1305 AB Almere
Netherlands
Telephone: 011-31-36-549-1111
Fax: 011-31-36-532-0398

France :
Thermopatch France
7 Rue Chappe-Z.I. Des Garennes
B.P. 1011
Les Mureaux Cedex 78131
France
Telephone: 011-33-1-3022-0808
Fax: 011-33-1-3022-1866

Germany :
Thermopatch Deutschland
Grunteweg 33
26127 Oldenburg
Deutschland
Telephone: +49 441-380210
Fax: +49 441-3802121
E-mail: sales@thermopatch.de

Netherlands :
Thermopatch BV
P.O. Box 50052
1305 AB Almere
Netherlands
Telephone: 011-31-36-549-1111
Fax: 011-31-36-532-0398

Internet Address : http://www.thermopatch.com
E-mail Address : sales@thermopatch.com

If your country is not listed please contact Thermopatch Corporation or Thermopatch Europe.

Thermopatch
Since 1934

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Thermopatch Corporate Headquarters	USA	T +1 315 446-8110	F +1 315 445-8046	sales@thermopatch.com
Thermopatch European Headquarters	The Netherlands	T +31 36 549 11 11	F +31 36 532 03 98	sales@thermopatch.nl
Thermopatch Australia Pty Ltd	Australia	T +61 395325722	F +386 2 80 55 232	marktpatchaust@bigpond.com.au
Thermopatch Canada Inc	Canada	T +1 519 748-5027	F +1 519 748-1543	broussel@thermopatch.com
Kannegiesser UK Ltd.	United Kingdom	T +44 1539 722122	F +44 1539 721000	thermopatch@kannegiesser.com